

Patent Claims

1. A rectifier circuit matched for power factor correction, comprising a first diode (D1), a second diode (D2), a third diode (D3) and a fourth diode (D4) in bridge arrangement, an inductance (L1) and a capacitance (C1), with a first pole (10) and a second pole (12) of the bridge arrangement being connected to a source (U) which has at least one AC voltage component, and the inductance (L1) being arranged in series with the third pole (14) or the fourth pole (16),

characterized
in that the capacitance (C1) is connected between the first pole (10) and the second pole (12), and two of the four diodes (D1, D2, D3, D4) are in the form of fast diodes.

2. The rectifier circuit as claimed in claim 1, characterized
in that the capacitance (C1) is formed by a first capacitance element (C2) and a second capacitance element (C3) connected in series, the junction point between the first capacitance element (C2) and the second capacitance element (C3) being connected to the third pole (14) or to the fourth pole (16) of the bridge arrangement.

3. The rectifier circuit as claimed in claim 2, characterized
in that the junction point between the first capacitance element (C2) and the second capacitance element (C3) is connected to the junction point between the diodes which do not need to be in the form of fast diodes.

4. The rectifier circuit as claimed in one of claims 1 to 3, characterized
in that the first diode (D1) is connected between the first pole (10) and the third pole (14), the second diode (D2) is connected between the first pole (10) and

the fourth pole (16), the third diode (D3) is connected between the fourth pole (16) and the second pole (12), and the fourth diode (D4) is connected between the second pole (12) and the third pole (14),

5 the first diode (D1) and the fourth diode (D4) being in the form of fast diodes, the inductance (L1) being arranged in series with the third pole (14), and the fourth pole (16) being connected to ground.

10 5. The rectifier circuit as claimed in one of claims 1 to 3, characterized

15 in that the first diode (D1) is connected between the first pole (10) and the third pole (14), the second diode (D2) is connected between the first pole (10) and the fourth pole (16), the third diode (D3) is connected between the fourth pole (16) and the second pole (12), and the fourth diode (D4) is connected between the second pole (12) and the third pole (14),
20 the second diode (D2) and the third diode (D3) being in the form of fast diodes, the inductance (L1) being arranged in series with the third pole (14), and the fourth pole (16) being connected to ground.

25 6. The rectifier circuit as claimed in one of claims 1 to 3, characterized

30 in that the first diode (D1) is connected between the first pole (10) and the third pole (14), the second diode (D2) is connected between the first pole (10) and the fourth pole (16), the third diode (D3) is connected between the fourth pole (16) and the second pole (12), and the fourth diode (D4) is connected between the second pole (12) and the third pole (14),
35 the first diode (D1) and the fourth diode (D4) being in the form of fast diodes, the inductance (L1) being arranged in series with the fourth pole (16), and the fourth pole (16) being connected to ground via the inductance (L1).

7. The rectifier circuit as claimed in one of claims 1 to 3,

characterized

in that the first diode (D1) is connected between the first pole (10) and the third pole (14), the second diode (D2) is connected between the first pole (10) and the fourth pole (16), the third diode (D3) is connected between the fourth pole (16) and the second pole (12), and the fourth diode (D4) is connected between the second pole (12) and the third pole (16), the second diode (D2) and the third diode (D3) being in the form of fast diodes, the inductance (L1) being arranged in series with the fourth pole (16), and the fourth pole (16) being connected to ground via the inductance (L1).